

## **SPECIAL NOTE FOR BRIDGE DECK RIDEABILITY**

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department's 2004 Standard Specifications for Road and Bridge Construction.

**1.0 DESCRIPTION.** This note covers the requirements for the ride quality of completed bridge decks, approaches when included as part of the contract, and bridge deck overlays. Included are provisions for incentive payments for outstanding work and deductions for acceptable, but lesser quality, work. This note will not apply to bridge decks less than 200 feet in length.

### **2.0 MATERIALS.**

**2.1 Profiler.** The Department will use a profiler conforming to Subsection 410.02.

**2.2 Profilograph.** The Department will use a California Profilograph with a 0.2-inch blanking band according to ASTM E 1274 to determine Profile Index (PI).

**3.0 CONSTRUCTION.** The Department will determine the ride quality of the bridge deck in terms of a straightedge, Profile Index (PI) and International Roughness Index (IRI).

**3.1 Straightedge.** Straightedge the deck and the approaches in the presence of the Engineer. Perform straight edging as soon as the concrete has hardened sufficiently to support walking or when practical and the approaches and bridge ends as soon as the paving is complete. Place a 10-foot rolling straightedge parallel to the centerline in order to bridge all depressions and touch all high spots. Plainly mark all high spots, indicated by a variation exceeding 1/8 inch from the straightedge, that are 6 inches or more from the pavement, base, or shoulder edge.

**3.2 PI.** The Engineer will test the lane surface with the profilograph as soon as practical. The Department will take pavement profiles along each wheelpath of each driving lane. The Department will be using the profilograph to test other projects. Cooperate in the scheduling of testing as necessary in order to ensure testing can be performed efficiently on all projects. Thoroughly clean the surface before testing.

The Engineer will determine an average PI for each section on the bridge deck. The Department will consider a PI section to be 500 linear feet of full lane width. When a test section at the end of a lane is less than 500 feet, the Department will include it in the preceding 500-foot test section. When a bridge length is less than 500 feet, the Department will consider each length of full lane width to be a test section. Regardless of the PI, remove all areas represented by high points having deviations in excess of 0.3 inch in 25 feet or less using methods the Engineer approves. The Engineer will determine deviations in excess of 0.3 inch from the profilograph.

When the section's average PI is between 8 and 12 inches per mile, correct deck deviations to achieve a ride quality of a maximum PI of 8 inches, or accept an adjustment to the contract unit price. For sections with an average PI of 12 inches or greater, the Department will require corrective work.

**3.3 IRI.** The Department will test the ride quality of the deck for incentive payments when the PI is 8 inches or less per mile on new decks and overlays.

The Department will determine the IRI by applying a linear transform, determined by

correlation, to the values (average of 2 wheel paths) determined by ASTM E 1926. Thoroughly clean the surface of all dirt and other foreign matter immediately before the Department performs the testing.

The Department will divide and test each traffic lane using 500-foot test sections starting at the beginning of the deck and proceeding in the direction of traffic. When requested, the Department will retest the lane after any corrective work is completed. The Department will create a strip chart showing the elevation and distance traveled upon request.

**4.0 MEASUREMENT.** The Department will not measure the PI or IRI as a separate pay unit, but will use the PI or IRI to calculate a ride quality adjustment for bridge deck and overlay concrete. The Department will use the IRI for incentive payments and, if none, will use the PI for acceptance and disincentive payments.

**5.0 PAYMENT.** The Department will apply a Ride Quality Adjustment for each section tested. The Department will calculate the Ride Quality Adjustments by multiplying the bridge deck concrete payment or concrete overlay payment of each test section by its appropriate ride quality Pay Value found in the Ride Quality Adjustment Schedule.

**Ride Quality Adjustment Schedule for New Bridge Decks and Overlays**

<u>IRI</u>	<u>Pay Value<sup>(1)</sup></u>
53 or lower	+0.06
54 to 56	+0.04
57 to 60	+0.02
<u>Average for PI (inches per mile)<sup>(2)</sup></u>	<u>Pay Value<sup>(1)</sup></u>
8 or less	0.00
over 8, up to 9	-0.02
over 9, up to 10	-0.03
over 10, up to 11	-0.04
over 11, up to 12	-0.05
over 12	Corrective work required

<sup>(1)</sup> Contractor may correct areas to achieve a positive adjustment. The Department will perform retesting for corrective work.

<sup>(2)</sup> The Department will apply the unit bid price adjustment to the total area of the 500-foot section of the traffic lane represented by the Profile Index based on an 8-inch new slab thickness or theoretical overlay thickness. The Department will not make payment in excess of 50 percent for any concrete that has an average Profile Index in excess of 12 inches per mile on new decks and overlays, until the Contractor completes the corrective work and the Department reprofiles and verifies that the average Profile Index has been reduced to 12 inches per mile or less on new decks and overlays.

The Department will consider payment for slab concrete as full compensation for all work required in this note.

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